PERSONALITY FACTORS, RIGIDITY AND MODERNIZATION OF THE PROSPECTIVE TEACHERS TOWARDS E-LEARNING: A STUDY

SUMMARY OF THE WORK
THESIS SUBMITTED FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN
EDUCATION

BY

MOHUA SANNIGRAHI

DEPARTMENT OF EDUCATION,
SWAMI VIVEKANANDA UNIVERSITY
BARRACKPORE
KOLKATA-700121
WEST BENGAL, INDIA

2025

PERSONALITY FACTORS, RIGIDITY AND MODERNIZATION OF THE PROSPECTIVE TEACHERS TOWARDS E-LEARNING: A STUDY

SUBMITTED BY

MOHUA SANNIGRAHI

Registration Number: SVU/PhD/SOHS/EDU/044/2021

UNDER THE SUPERVISION OF

DR.LITON MALLICK

HEAD, DEPARTMENT OF EDUCATION

SWAMI VIVEKANANDA UNIVERSITY

BARRACKPORE, WEST BENGAL

SUMMARY OF THE WORK

THESIS SUBMITTED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN EDUCATION OF SWAMI VIVEKANANDA UNIVERSITY

2025

Introduction:

E-learning has emerged as a transformative force in modern education, offering unparalleled flexibility, accessibility, and learner-centered approaches that transcend the limitations of traditional classrooms. As the educational landscape has evolved, particularly in regions with less developed educational infrastructure, digital tools like virtual classrooms, video lectures, and interactive media have made a significant impact. The acceleration of online learning, especially in the wake of the COVID-19 pandemic, has further underscored its importance in global education systems. However, while technology lays the foundation for E-learning, its success relies not only on the technical infrastructure but also on the psychological, sociocultural, and institutional readiness of both students and teachers.

One of the key factors influencing the adoption and effectiveness of E-learning is the personality of prospective teachers. Specifically, the Big Five personality traits—Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism—play a pivotal role in shaping how educators engage with digital education platforms. For example, traits like Conscientiousness and Openness are positively correlated with engagement in E-learning environments. Conscientious individuals tend to thrive in self-paced, structured learning settings, whereas introverted individuals may excel due to the reduced social interaction inherent in online learning. Conversely, individuals high in Neuroticism may face challenges in adapting to the often self-directed nature of digital learning.

In addition to personality traits, rigidity—defined as a resistance to change or a fixed mindset—presents a significant challenge in the digital education context. Teachers with rigid thinking patterns may find it difficult to adapt to the ever-changing technological landscape, which demands flexibility and innovation. Therefore, the adoption of E-learning requires individuals who are both psychologically flexible and open to change.

Modernization plays a dual role in this transformation. Not only does it modernize teaching methodologies through the promotion of digital literacy and innovative pedagogical techniques, but it also reshapes societal structures and influences learner expectations. While modernization brings about benefits such as increased access to knowledge and cultural exchange, it also presents challenges, such as the reduced face-to-face interaction and disparities in digital access. In countries like India, initiatives such as NPTEL, E-Gyankosh,

and the National Digital Library have significantly enhanced the reach of quality education through digital platforms.

This study aims to investigate the influence of personality factors, rigidity, and modernization on the attitudes of prospective teachers toward E-learning. By exploring the interplay between these factors, the research intends to provide insights into how they collectively impact the willingness of future educators to adopt digital education tools. Despite the growing body of research on E-learning, the psychological and sociocultural determinants of its adoption remain underexplored, particularly at the regional level.

Objectives:

The shift toward E-learning, especially post-COVID-19, has profoundly altered the educational landscape. Online education has become an increasingly flexible and accessible mode of learning, attracting a growing number of students. However, the effectiveness of this mode of learning depends on various factors, particularly the personal and psychological attributes of teachers, especially prospective teachers who will eventually shape the future of education.

This study emphasizes the need to explore how personality traits, societal rigidity, and modernization influence the attitudes of prospective teachers toward E-learning. Specifically, the study seeks to examine how individual personality factors—such as Openness, Adaptability, and Conscientiousness—along with resistance to change (rigidity) and alignment with modern teaching practices (modernization), collectively shape teachers' engagement with digital education. Despite the increasing relevance of E-learning, there is a lack of comprehensive research exploring how these variables interact within the context of future educators.

The objectives of the study are as follows:

1. To study the nature of Personality Factors, Rigidity, Modernization, and E-learning of Prospective Teachers.
2. To find out the difference in Personality Factors, Rigidity, Modernization and E-learning of Prospective Teachers with respect to their gender.
3. To find out the relationship of Personality Factors, Rigidity, and Modernization with E-learning of Prospective Teachers

The study also seeks to test several hypotheses, particularly those concerning gender differences in personality traits, rigidity, modernization, and E-learning preferences. Additionally, the study will explore whether personality traits, rigidity, and modernization have a significant correlation with the attitude toward E-learning among male and female prospective teachers.

Methodology:

To achieve the objectives outlined above, a robust and well-structured methodology was employed. The research design adopted for this study is descriptive survey research, which is effective for understanding current trends and behaviors in educational contexts without manipulating any variables. This design allowed for the exploration of the relationship between the variables of personality factors, rigidity, modernization, and attitudes toward E-learning.

The study population consisted of B.Ed. students from Paschim Medinipur and Purba Medinipur districts in West Bengal, with a total sample of 500 students, including 230 males and 270 females from government, government-aided, and self-financed colleges. Purposive sampling was used to select the sample, targeting individuals whose characteristics aligned with the study's objectives.

The variables studied include:

1. **Personality Factors**: Assessed using the Big Five Inventory (BFI), a 44-item scale measuring Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.
2. **Rigidity**: Measured using the Dimensions of Rigidity Scale (DRS), a 75-item yes/no tool developed by Chadha to measure cognitive rigidity.
3. **Modernization**: Assessed using the Comprehensive Modernization Inventory (CMI-AK), which measures modernization in education, politics, religion, and other societal domains.
4. **Attitude Toward E-learning**: Measured using the TeLRA Scale, a 36-item questionnaire assessing attitudes toward digital learning environments.

The data collection process involved administering the survey to students after obtaining prior approval from the relevant authorities. Instructions were provided to ensure clarity and accuracy in responses. Data analysis was conducted using descriptive statistics, inferential statistics, and correlation analysis to explore relationships between the key variables.

Analysis:

This chapter presents an in-depth analysis of the relationships between personality traits, rigidity, modernization, and attitudes toward E-learning. The analysis uses descriptive statistics to summarize the data and inferential statistics to test hypotheses and explore correlations.

Descriptive statistics showed that the mean score for E-learning attitudes was 93.20, indicating a slightly left-skewed and platykurtic distribution. This suggests that most students hold positive views on E-learning, with a tendency toward higher scores. The mean rigidity score was 50.42, reflecting a nearly symmetrical distribution. The personality factor mean score was 113.52, with a slight right skew, suggesting that most students scored above average. Finally, the modernization mean score was 139.50, with a negative skew, indicating that students tend to hold modern views.

Gender differences were examined using Independent Sample t-tests. The results showed that female students scored slightly higher than male students in personality traits, rigidity, modernization, and attitudes toward E-learning. However, these differences were not statistically significant ($p > 0.05$), suggesting that gender does not significantly influence these variables.

Correlation analysis revealed several important findings. A weak but statistically significant positive correlation was found between personality factors and attitudes toward E-learning ($r = 0.112$, $p < 0.05$), indicating that personality influences the adoption of E-learning. However, this relationship was not significant when analysed separately by gender. Rigidity, on the other hand, showed no significant correlation with E-learning.

Modernization emerged as the most significant predictor of attitudes toward E-learning. A moderate positive correlation was found between modernization and E-learning attitudes ($r = 0.246$, $p < 0.05$). This correlation was significant both in the male ($r = 0.280$) and female ($r =$

0.217) subgroups, leading to the rejection of the null hypotheses related to the role of modernization.

Findings and Discussion:

The findings of this study highlight several important factors that influence prospective teachers' attitudes toward E-learning. While gender differences in personality traits, rigidity, and attitudes toward E-learning were minimal, the results underscore the significance of modernization in shaping these attitudes.

Prospective teachers generally displayed favourable attitudes toward E-learning, with a moderate average score indicating a positive perception of online education. Modernization, particularly the embrace of technology and modern social perspectives, emerged as the key factor in fostering positive attitudes toward E-learning. Students who aligned more with modern values were more likely to engage with digital learning platforms and appreciate their benefits.

In terms of personality traits, Conscientiousness was the most influential trait in predicting positive attitudes toward E-learning. Conscientious individuals, characterized by their organizational skills and self-discipline, were more likely to thrive in self-directed online learning environments. Openness to experience also played a role, albeit weaker, in predicting E-learning attitudes, suggesting that individuals with higher levels of curiosity and adaptability were more inclined to embrace online learning.

Interestingly, rigidity, defined as cognitive inflexibility, did not significantly affect attitudes toward E-learning. This finding suggests that while rigidity may present challenges, it does not fundamentally hinder the adoption of online education. Modern digital platforms, with their structured and guided approach, may help mitigate some of the challenges posed by rigid thinking.

Conclusion:

This study provides valuable insights into how personality traits, cognitive rigidity, and modernization influence prospective teachers' attitudes toward E-learning. Conscientiousness and Openness were found to be the most significant predictors of positive attitudes, suggesting that traits such as adaptability, responsibility, and organizational skills are

essential for success in online education environments. Modernization, characterized by the embrace of technological advancements and modern societal values, also played a crucial role in shaping favourable attitudes toward digital learning.

Despite the challenges posed by cognitive rigidity, the results suggest that modern E-learning platforms, which offer structured and interactive experiences, can effectively support a broad range of learners. Future teacher education programs should focus on fostering traits like Openness and Conscientiousness, as well as providing continuous professional development to enhance digital literacy and adaptability.

Overall, the findings of this study contribute to a deeper understanding of the factors influencing E-learning adoption among prospective teachers, offering valuable insights for educational policymakers, institutions, and teacher training programs.

References:

Agarwal, S., & Gupta, A. (2012). Impact of modernization on education. *International Journal of Educational Research*, 3(4), 35-41.

Agarwal, V. (2011). The adoption of educational technology in the classroom. *Education and Information Technologies*, 16(4), 547-561.

Bawa, P. (2020). Technology Enhanced Learning and Readiness Assessment. *International Journal of Educational Technology*, 5(2), 61-72.

Chadha, N. K. (1997). Dimensions of Rigidity Scale (DRS). *Indian Journal of Applied Psychology*, 34(2), 23-30.

Cook, J., & Davis, P. (2017). Teacher readiness for e-learning in higher education. *Educational Technology Research and Development*, 65(1), 129-144.

Gok, T. (2019). The role of personality in the digital classroom. *International Journal of Research in Education and Science*, 4(1), 72-83.

Gupta, S., & Bhatia, A. (2015). Cognitive flexibility and e-learning. *Journal of Distance Education and Learning*, 9(3), 45-58.

Howard, R., & Latham, L. (2018). The big five personality and learning outcomes in e-learning environments. *Journal of Educational Psychology*, 110(2), 234-245.

John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the Big Five. *Personality and Social Psychology Review*, 12(3), 222-241.

Lee, H., & Lim, C. (2020). Personality traits and online learning. *Educational Psychology*, 40(4), 473-488.

Mazur, E. (2015). Pedagogy and modern learning. *Journal of Modern Educational Research*, 6(2), 23-38.

McCrae, R. R., & Costa, P. T. (2004). A contemplated revision of the NEO Five-Factor Inventory. *Personality and Individual Differences*, 36(3), 587-596.

Rainer, D., & Bruch, H. (2013). The role of personality traits in e-learning environments. *Educational Psychology Review*, 25(2), 145-159.

Sharma, P., &Rautela, S. (2020). The impact of modernity on teacher attitudes. *Journal of Educational Technology*, 34(2), 87-99.

Vasilenko, K. (2016). Educational modernization and student readiness. *Journal of Educational Research*, 60(2), 105-120.